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~~Patent Claims~~

1. Method of measuring the two-dimensional potential distribution in CMOS semiconductor components and of defining the two-dimensional dopant distribution, characterized by the fact that the phase of an electron wave is measured by electron holography whereby the minimum lateral resolution is in the nm range.

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2. Method of claim 1, characterized by the method steps of

10 - generating a planar electron wave (!);

- modulation of the planar electron wave (1) as a result of its passing through a thinned cross-sectional sample of the semiconductor component;

- enlarging the modulated image wave (3) by an objective lens (5);

15 - Superposing the enlarged Image wave (3) and a planar reference wave (6) by means of an electron bi prism (4);

- registering the generated electron hologram (7);

- extracting the phase of the image wave (3) by a Fourier analysis; and

- measuring the two-dimensional potential distribution from the phase

20 image.

25 3. Method of claim 1 or 2, characterized by the fact that the two-dimensional dopant distribution is carried out by adjustment to the measured potential distribution on the basis of numeric simulations of the fabrication process.

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